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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,899	10/06/2003	Wei-Di Cao	TAV-2036	3802

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EXAMINER	
WYSZOMIERSKI, GEORGE P	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/679,899	CAO ET AL.	
	Examiner	Art Unit	
	George P. Wyszomierski	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-13,15-32,40 and 41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,3-13,15-25,40 and 41* is/are allowed.

6)☒ Claim(s) *26-30* is/are rejected.

7)☒ Claim(s) *31 and 32* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/17/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The Amendment filed January 18, 2006 has been entered. The claims currently under consideration are claims 1, 3-13, 15-32, 40 and 41. The corrected Table 3 which recites temperatures in Fahrenheit rather than Celsius has been entered. This is not considered to involve new matter as it is merely corrects an obvious error in the original. All other temperatures disclosed in the specification are in Fahrenheit.

2. The Manriquez reference, originally cited by Applicant in the IDS filed February 17, 2005 has been considered.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank et al. (U.S. Patent 5,556,594).

Frank discloses a process of treating nickel base alloys, including the steps of solution treating, cooling, and two-step aging, the second aging step being at a lower temperature than the first step. The times and temperatures of these various steps in Frank are within the ranges as defined in the instant claims; see Frank column 12, lines 8-15. With respect to claim 30, numerous examples in Tables IV and IVA of Frank have a yield strength and elongation value within the presently claimed ranges, and the notch sensitivity of these examples is held by the examiner to be "low" in the absence of any numerical definition of this term. While Frank does

not discuss stress rupture life, this property would appear to be a consequence of the heat treatment imposed on the alloy; because the heat treatments may be identical to those as claimed, it is a reasonable assumption that the prior art process would result in a material having the presently claimed property.

Frank differs from the claimed invention in that the composition of the alloys treated by Frank is different from those recited in instant claim 26. However, the instant claims are directed to a process, not a composition, and all process steps recited in the instant claims are disclosed by Frank, as set forth supra. Further, the compositions treated in the Frank process are NI-base superalloys having high yield strength and resistance to pitting and crevice and stress corrosion cracking, i.e. many of the same properties as desirable in the present invention.

Consequently, a prima facie case of obviousness is established between the disclosure of Frank et al. and the presently claimed invention.

5. Claims 26-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudo (PG Pub. No. 2003/0051777).

Sudo discloses subjecting an alloy having a composition as recited in the instant claims to a process which includes solution treating and two aging steps, all within times and temperatures overlapping the ranges as recited in the instant claims. With respect to claim 30, because Sudo subjects a material identical to that processed in the present invention to substantially the same series of steps, it is a reasonable assumption that any resulting properties would likewise be the same in either instance.

Sudo differs from the claimed invention in that Sudo prefers a first aging step at a lower temperature than a second aging step, i.e. opposite of that defined in the instant claims. However, note paragraph [0027] of Sudo, in which the prior art states that usually primary aging

is performed at high temperature, and secondary aging at low temperature. In other words, Sudo states that it is common practice in the art to carry out a process substantially in accord with that of the instant claims, upon a material substantially identical to that recited in the instant claims.

Based upon this disclosure of Sudo, it would appear that a process as set forth in the instant claims would have been well within the level of one of ordinary skill in the art.

6. In the response filed December 2, 2005, Applicant alleges that the difference in composition between the alloys of Frank and those processed in the present invention (particularly with respect to aluminum and molybdenum) distinguish the claimed process from that of Frank, that the Declaration of Richard Kennedy under 37 CFR 1.132 shows an unobvious distinction between the Frank disclosure and the claimed invention, and/or that the modifications required to assimilate the Sudo reference with the claimed invention would result in a process unsuitable for the purposes of Sudo. Applicant's arguments have been carefully considered, but are not persuasive of patentability because:

a) With regard to the composition of Frank, it is first noted that the present claims are directed to a series of process steps, and that this series of steps overlaps those performed by Frank, regardless of alloy composition. Second, with respect to aluminum content, while Frank prefers a smaller amount of aluminum, Frank discloses and claims an aluminum content as high as 1%, i.e. within the limitations of the instant claims. The examiner submits that Frank must be considered for all that it discloses, and not merely for its preferred embodiments. With regard to molybdenum, while Applicant is correct that the amount used by Frank is significantly higher than that recited in the instant claims, this i) has no bearing on any of the process steps as

recited in the instant claims, and ii) Applicant has not shown that use of a different amount of molybdenum would result in any material change in any of the process steps or in the resultant effects (mechanical properties, etc.) of those process steps on Ni-base alloys.

b) With regard to the Declaration of Mr. Kennedy, initially it is noted that the Declaration includes what appear to be photocopies of photographs, and the condition of the photocopies in combination with the condition of the papers submitted with the Declaration renders it difficult to attribute any significance to what is depicted in the photocopies. More importantly, however, the declaration is not sufficient to overcome the rejection because the Declaration compares only a single example of the invention to the prior art; thus the showing in the Declaration is not commensurate in scope with the claimed invention, which involves a variety of times and temperatures to be used in a series of process steps.

c) With regard to Sudo, the examiner freely admits that Sudo distinctly does not want to subject an alloy to the presently claimed process, and indeed discloses that such a process would be unsuitable for his purposes. Rather, the crux of the rejection is that Sudo does disclose in paragraph [0027] that usually (referring to the prior art known to Sudo) the primary or first aging is performed at a high temperature, and the secondary aging at a low temperature. This is consistent with the presently claimed invention. In other words, Sudo indicates that it is generally known in the art to perform a process in accord with the claimed invention; part of Sudo's contribution to the art is to not do a process that is generally known in the art. It is the examiner's position that Sudo is describing a part of what would have been generally known to one of ordinary skill in the art at the time of the present invention.

7. Claims 1, 3-13, 15-25, 40 and 41 are allowable over the prior art of record, and claims 31 and 32 are objected to as being dependent upon a rejected base claim, but

would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose or suggest the pre-solution treating step in the process as defined by these claims.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the new central facsimile number, (571)-273-8300. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

GPW
March 30, 2006